

PreSchool Nature Explorers



A collection of lessons and activities for the PreSchool classroom that help young learners explore and investigate the environment and the natural world.



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Barnyard Bag Books

Standards of Learning

Science: 2.1, 3.1, 4.1

Language Arts: 2.2, 3.4, 4.4

Objective

Students will:

- Investigate an ecosystem
- Utilize descriptive vocabulary

Materials

- Large plastic container
- Soil or peat moss
- small shovels/trowels (you may also use plastic spoons)
- plastic bowls
- farm ecosystem items
 - Ex: leaves, artificial worms/insects/animals, sticks, pebbles, pine needles, seeds, tractor toys, plastic farm animals
- Paper lunch bags
- Hole punch
- Yarn or pipe cleaners
- Pre-printed descriptive word slips, *sample attached*

Background Knowledge

The world is made up of a multitude of living things, and in this lesson, students will explore the natural world around them and become more aware of the many plants and animals that inhabit the farm. You will be bringing the farm to the classroom by filling a large plastic tub with various items that might be found on the farm. See the “Materials” section for suggestions.

Pre-punch your paper bags by folding each bag in half and punching two holes by the fold. Then have students assemble their books by threading either yarn or pipe cleaners through the holes to create the binding for the books.

Procedure

1. Have your large plastic tub filled with soil and pre-loaded with various items for your farm ecosystem.
2. Pass out paper bag books and descriptive word slips. Have students glue a descriptive word onto each page in their book. *This step is optional for younger students.*
3. Have students take turns in small groups coming up to the discovery tub. Give them a chance to sift through it and see what is hidden. Have them find items in the tub to match the descriptive words in their book.
4. Students can either place their items in the sleeves in their books or draw a picture of the item on the correct page.



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Barnyard Descriptive Words

rough

smooth

living

non-living

hard

soft

small

large

red

green

brown

yellow

things that start with "B"

things that start with "D"



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Create a Tree

Content Area

Science: Tree Parts

Cooperation/ Taking Turns

Fine Motor: Manipulative Movement

Literacy: Vocabulary

Objective

The student will be able to:

- Identify parts of a tree

Materials

- Toilet paper rolls with 3 holes punched equidistance approximately 1 inch from the bottom of the roll (1 per child)
- Tie twist or pipe cleaners pieces 2 inches long (3 per child)
- 4 x 4 pieces of tissue paper
- Brown paper bags or construction paper
- Masking or transparent tape
- 12 picture/word cards (3 each) of trunk, bark, roots, and leaves (enough for 4 children to play)

Background Knowledge

This card game is intended for preschool through second graders to learn the parts of a tree. Vocabulary and tree parts are key concepts in this lesson. Recycling of materials and cooperation are also important concepts for children to master. Use recycled materials for tree components; students draw cards depicting four parts of a tree- trunk, bark, roots, and leaves- in order to collect parts to create a tree.

Procedure

1. Give the group a deck of twelve cards and put all of the materials listed above in the middle of the table or desk group.
2. Tell them that they are going to play a card game in order to get the parts to make a tree, and that as they turn over the card with the part, they may take the part from the pile in the middle of the table and put it in front of them.
3. Tell children that they must say the name of the part on their card aloud every time they draw a card, whether or not it has been collected. Each child in the group will have 3 turns, resulting in each student saying parts of the tree aloud.
4. The deck will have been arranged so that the cards will repeat (for example, the first two cards may both be roots, the next three may be bark, etc.). This is done so that the young children are repeatedly saying the name and viewing the picture of the tree part.
5. When the children have collected all of the parts, they will start constructing the tree.
6. Have the group follow your direction in this order and say aloud:
 - a. "This is the trunk. It is like my body." Someone holds up the toilet paper roll.
 - b. "These are the roots; they are like my feet." The pipe cleaners (or bread ties) are then threaded through the tree holes in the bottom of the roll, and twisted to close.
 - c. "This is the bark; it is like my skin." The square of brown construction paper (or brown bag paper) is then wrapped around the tree and fastened with masking or transparent tape. (Avoid the root holes; the paper is cut small enough not to cover them if placed correctly). The younger pre-school children may need help.



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- d. "These are the leaves; they grow and can move in the wind. " Assist children to either push the green paper into the top (palm tree look) or mold it into a half circle and put it gently into the top (lollypop look).
- e. Then they review and repeat all the names of the components of the tree which they have just put together.
- f. If desired, this entire process can be repeated as a group with additional materials, or each child in the group can construct a tree during the card game.

Extension

1. Pre-make a sample toilet paper tree and larger trees from taller rolls from things like paper towel holders and rolls from other assorted products. We can then measure the trees and talk about the different characteristics and appearances of trees with which they are familiar. If there is an opportunity, let the students do bark rubbings on assorted trees with the brown paper square before we do the card game. We then have a chance to construct and observe different bark patterns.
2. Challenge the group to make things to go with their trees from recycled materials. They usually make towns from recycled milk cartons, boxes, etc. This reinforces recycling and encourages creativity.

Suggested Reading

Fall Leaves Fall! by Zoe Hall

Leafman by Lois Ehlert

Oak Tree by Gordon Morrison

Resources

Lesson adapted from Pennsylvania AITC.



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Earth Beads

Content Areas

Science: Earth Patterns and Cycles

Fine Motor: Manipulative Movement

Social Studies: Location, Descriptive Words

Literacy: Vocabulary

Objective

Students will:

- model the interdependency between plants, animals, and the Earth.
- investigate cycles in nature.

Materials

- pipe cleaners
- pony beads in the following colors: red, blue, green, brown, white, black, clear, and yellow

Background Knowledge

In this activity, students make bracelets which represent the many factors that make up our complex world. From plants and animals, to air and water – every bead represents an important part of the planet Earth.

Procedure

1. Place the colored beads onto the pipe cleaner in the following order:
 - **Red beads** represent people. All people, regardless of race, color or religion have blood. The earth provides us with everything we need to survive. We must take great care of our valuable resources.
 - **Blue beads** represent water. Water travels through a cycle. Water showers down on the land and collects in oceans, rivers, lakes, and streams. It evaporates back into the sky and collects in clouds. The clouds become heavy and liquid precipitates down to land again.
 - **Green and Brown beads** represent plants and soil, respectively. Plants and soil go through cycles. Plants grow from soil. Plants provide food for animals. Animals provide food for other animals. Animals die and decompose putting nutrients back into the soil. New soil is made from erosion of rocks. New plants grow from the soil.
 - **White and Black beads** represent day and night. Earth is a sphere. Earth is spinning through space, rotating on its axis, revolving around the sun. The Earth and sun give the cycle of seasons and the cycle of night and day.
 - **Clear beads** represent air. Animals breathe in oxygen and exhale carbon dioxide. Plants take in carbon dioxide, use it to make food, and give off oxygen.
 - **Yellow beads** represent the sun. The sun provides light for all of the Earth. Without the sun, plants and animals would not survive. The sun binds us all together.
2. Make sure to explain what the beads mean to the students.
3. Twist the ends of the pipe cleaner to form a bracelet. Discuss how the circle represents the cycles.



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Garden Discovery

Content Area

Mathematics: Geometry
Science: Investigation, Matter
Literacy: Vocabulary

Objective

Students will:

- Investigate nature
- Sort and classify their findings

Materials

- Large plastic container
- Soil
- small shovels/trowels (you may also use plastic spoons)
- magnifying glasses
- plastic bowls
- ecosystem items
 - Ex: leaves, artificial worms/insects/animals, sticks, pebbles, pine needles
- Recording worksheet, attached (*you may choose to use one or both sides*)

Background Knowledge

The world is made up of a multitude of living things, and in this lesson, students will explore the natural world around them and become more aware of the many plants and animals that inhabit their environment. Schoolyards and gardens, in particular, are ripe for exploration and investigation. Sometimes, however, it is not feasible to take student outdoors to explore, so this lesson offers the option of bringing the outdoors inside. Teachers may choose to do either an outdoor nature walk or an indoor discovery tub.

Procedure

Option A: Nature Walk

1. Pass and go over the Garden Discovery recording sheet. Set ground rules for which areas may be explored while outside.
2. Take children outside to find items to fill in their worksheets.
3. Return to the classroom and have students work in partners to complete their worksheets and share their findings with the class.

Option B: Discovery Tub

1. Have your large plastic tub filled with soil and pre-loaded with various items for your ecosystem (see "Materials" for suggestions).
2. Have students take turns in small groups coming up to the discovery tub. Give them a chance to sift through it and see what is hidden.
3. Give each student (or pair) a plastic bowl to fill with items.
4. Have them take the items back to their seats to complete their recording sheets.

Extension

Bring in empty egg cartons. Working in pairs, have students fill their egg cartons with opposites. For example, they may put something that is hard (a rock) on one side and something that is soft (a feather) on the other side. You may choose to assign the opposite pairs that they should look for, such as dark and light, heavy and light, or rough and smooth.

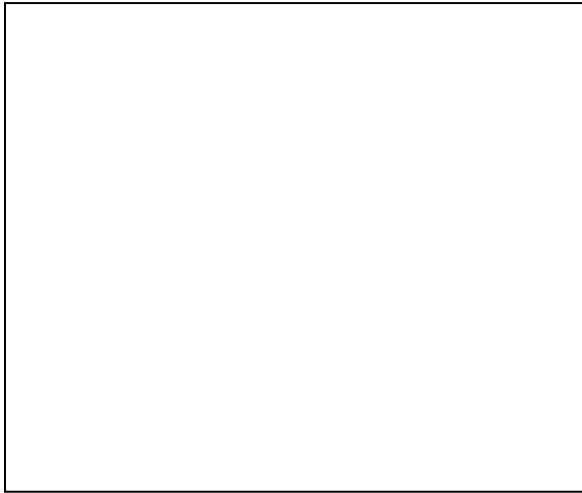


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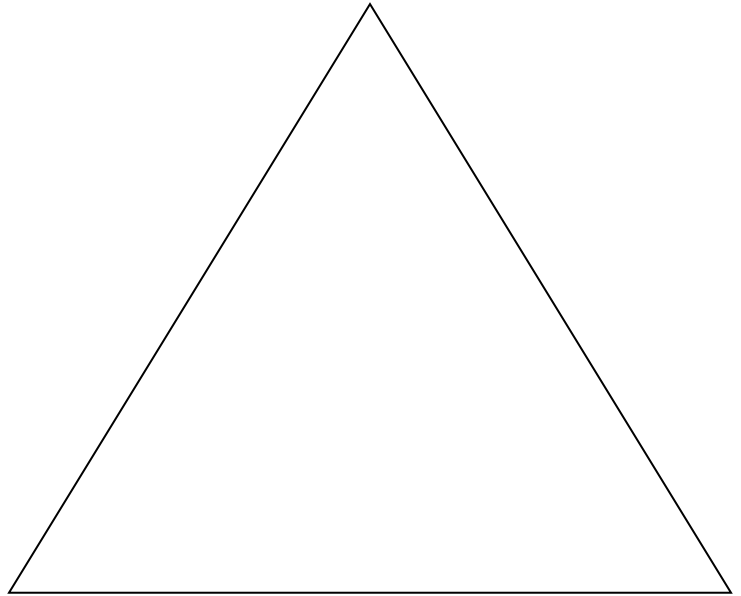
Garden Discovery

Directions: Find something that looks like the shapes below. Draw a picture or paste the object within the shapes below.

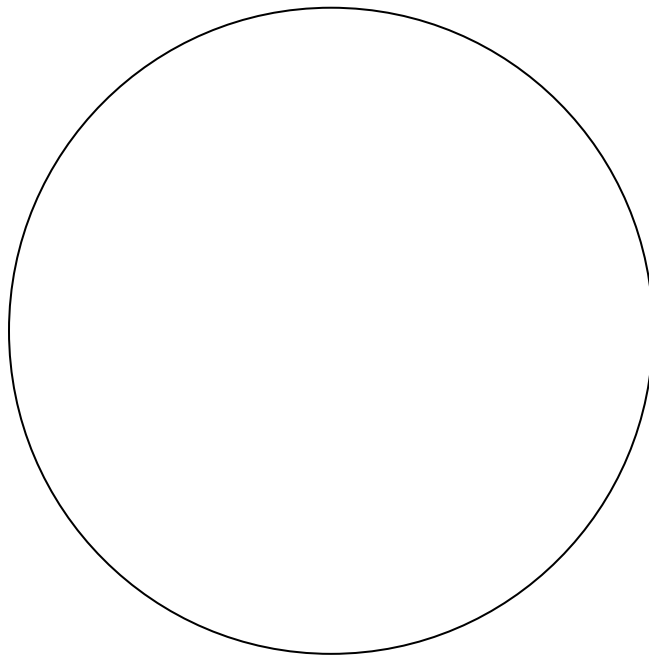
Square



Triangle



Circle



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Garden Discovery

Directions: Find something that matches the colors and descriptions below. Draw a picture or paste the object on the line.

Green _____

Brown _____



Small _____

Smooth _____



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My Nature Journal

Content Areas

Science: Investigation, Matter

Fine Motor: Manipulative Movement

Gross Motor: Locomotor Skills

Literacy: Vocabulary

Objective

Students will:

- draw pictures or write sentences to communicate ideas about the nature around them.

Materials

- 3 paper lunch bags per student
- markers
- 5 inch sticks, ribbon, or yarn
- rubber band
- hole punch

Background Knowledge

It is always important for your students to experience nature first hand and the best way to do that is to take your students on a nature walk. Nature walks can be done right at your school, whether it is in a courtyard, garden, or the woods. There are a few things that you might want in your nature walk for your students to get a good picture of the natural world around them. Try to take walks in the woods where there is a stream and where there are plants and animals that they do not normally see. Make sure to have plenty of time to do this because every twig, insect, plant, and stream requires observation and thought from your students to really get their minds thinking. Once you get your students thinking a lot then they will start asking questions! You also may want to take a few supplies with you like scissors to cut off blossoms or tops of plants, gardening gloves, and small pails so the students can bring things back that they find. When you are going on a nature walk make sure you have a nature guide with you to tell you all about the plants, animals, insects, and trees you are seeing. Your students will have questions that they are looking for you to answer.

If you are not able to go on a nature walk with your students then it is always fun to plant a garden with your students. They can watch the germination of different vegetables or flowers, learn the parts of the plants and learn what plants need to grow or learn the growth process of plants. Students will also be fascinated with a natural zoo by observing the animals close up and maybe even being able to feed them, but it is important to make sure the students are closely supervised. When you are planting a garden or visiting a natural zoo make sure you have a guide that can tell you all about the plants you're growing or the animals you're seeing. I am sure your students will have many questions to be answered. This provides a great opportunity for discussion and exploration as the students search to find the answer.

Procedure

1. Go on a nature walk with your students. Have them bring back things like flowers, sticks, and rocks.
2. When you are back in the classroom with your students explain to them that they are going to make a journal about what they saw and what they experienced.
3. Hand out the paper bags to your students so they each have three bags.
4. Fold the bags separately from end to end like a hamburger.



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5. Place the bags on top of each other and using the hole punch put two holes in the folded end about two inches apart.
6. Take one end of the rubber band and put it in one hole and the other end in the other hole.
7. Take your stick that you got from your nature walk and put one end of it through one end of the rubber band and the other end through the other end of the rubber band. (This should serve as the binder to the student's nature journals.)
8. Now explain to your students that they are going to draw pictures or write what they saw when they went on their nature walk. Make sure they create a title and have a lot of illustrations.
9. You can also explain to your students that the pockets of their journals is where they can put anything they found on the nature walk or they can draw pictures of what they saw and put it in the pockets as well.



Nature Suncatcher

Content Areas

Science: Investigation, Matter

Literacy: Vocabulary

Objective

Students will:

- Identify items found in nature

Materials

- Contact paper
- Construction paper
- Scissors
- Glue

Background Knowledge

It is always important for your students to experience nature first hand and the best way to do that is to take your students on a nature walk. Nature walks can be done right at your school, whether it is in a courtyard, garden, or the woods. There are a few things that you might want in your nature walk for your students to get a good picture of the natural world around them. Try to take walks in the woods where there is a stream and where there are plants and animals that they do not normally see. Make sure to have plenty of time to do this because every twig, insect, plant, and stream requires observation and thought from your students to really get their minds thinking. Once you get your students thinking a lot then they will start asking questions! You also may want to take a few supplies with you like scissors to cut off blossoms or tops of plants, gardening gloves, and small pails so the students can bring things back that they find.

Procedure

1. Prior to the lesson: cut frames from construction paper for the suncatchers.
2. Take students on a walk around the school yard. Give them each a plastic baggie and have them pick up and collect interesting items such as leaves, small twigs, or acorns.
3. After returning to the classroom, have students share what they found and identify any items that they cannot name.
4. Place items in the middle of the sticky side of contact paper and then place the top sheet on top and seal.
5. Put inside the pre-cut construction paper frames and secure by gluing. Trim the contact paper to fit.
6. Display in a classroom window!



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Nature Walk Wreath

Objective

Students will:

- Interact with the natural world around them by taking a nature walk
- Use items found on a nature walk to create a fall wreath

Materials

- Paper plates
- Scissors
- Glue
- Items from outside, such as colored leaves or acorns
- Pipe cleaners

Background Knowledge

It is always important for your students to experience nature first hand and the best way to do that is to take your students on a nature walk. Nature walks can be done right at your school, whether it is in a courtyard, garden, or the woods and fall is the perfect time since the outdoors are typically bursting with colors. Make sure to have plenty of time to do this because every twig, insect, plant, and stream requires observation and thought from your students to really get their minds thinking. Once you get your students thinking a lot then they will start asking questions! You also may want to take a few supplies with you like scissors to cut off blossoms or tops of plants, gardening gloves, and small pails so the students can bring things back that they find. When you are going on a nature walk make sure you have a nature guide with you to tell you all about the plants, animals, insects, and trees you are seeing. Your students will have questions that they are looking for you to answer.

Procedure

1. Take students outside on a nature walk. Give them each a paper bag and instruct them to pick up things from the ground that they find interesting (set ground rules for this prior to going outside) such as leaves or acorns.
2. Once back in the classroom give each student a paper plate with the middle cut out. This will be the base for their wreaths.
3. Have them glue their leaves and other items around the plates. *You may choose to go back and hot glue any items that appear too loose.*
4. Let dry and then attach a pipe cleaner as a hook so that wreaths can be displayed.

Extension

Have students practice their color recognition by sorting their leaves by color prior to gluing them on their wreaths.



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Tree Collage

Content Areas

Physical: Locomotor Activities, Non-Locomotive Skills

Social: Interaction with Others, Self-Control

Cognitive: Literacy: Written Expression, Print and Book Awareness

Cognitive: Science: Life Processes

Objective

Students will:

- Express ideas in writing
- Follow directions and interact with others in an outside setting

Materials

- Green construction paper
- Glue
- Materials from nature
- Book about trees, such as *The Tree Farmer* by Chuck Leavell and Nicholas Cravotta or *Tell Me, Tree* by Gail Gibbons
- Writing paper
- Pencils
- Paper bags

Background Knowledge

Forests cover nearly two-thirds of Virginia's 25.4 million acres of land, which is what makes lumber and wood products one of Virginia's top agricultural exports. In addition to lumber, trees are a source of fruit, nuts, spices, cork, fragrances, turpentine and paper fibers. Virginia agriculture and forestry are tied to thousands of jobs held by people who grow, research, process, transport, and market the products.

In this lesson, students will be given the opportunity to see the world around them through a nature walk, where they get to pick up, explore, and take various items that come from trees. They will use the items they collect to write a sentence expressing their ideas about what comes from a tree. Children are encouraged to do some pretend spelling and writing in order to express their ideas and gets practice with writing and print awareness.

Procedure

1. Have the green construction paper, glue, writing paper, and pencils at the art table.
2. Read a book about trees to students. Talk with students about the things that come from trees and what items can be made from trees, such as tables, pencils, paper, etc.
3. Give each student a paper bag with their name written on it and explain to them that they are going to go on a walk to see what they can find that comes from a tree. Remind them that it must come from a tree so if they are not sure to come and ask you. If they find something they should place it in their bag.
4. Take students outside for their nature walk.
5. Once everybody has at least 5 things bring them inside and instruct them to sit at the table. Explain to them again what they are going to do.
6. Have students glue their items on green construction paper.
7. Once they are done then hand them a piece of writing paper that says "Trees have _____." Instruct the students to finish the sentence by writing about what they have on their collage. Give students an example.
8. When they are done staple or glue their writing to the bottom of their collage and post on the wall!



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